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DATE: Thursday, November 04, 2004

Hide?	Set Name	Query	Hit Count
	DB=USPT,EPAB,JPAB,DWPI,TDBD; PLUR=YES; OP=OR		
☐	L4	multilamellar adj3 hydrophilic	6
☐	L3	liposome adj3 $antibod$	1025
☐	L2	L1 and 424/450.ccls.	61
☐	L1	stealth adj1 liposome	136

END OF SEARCH HISTORY

L4: Entry 5 of 6 File: USPT Jul 27, 1993

US-PAT-NO: 5230899
DOCUMENT-IDENTIFIER: US 5230899 A

TITLE: Methods and compositions for making liposomes

DATE-ISSUED: July 27, 1993

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Park; John Y.	Santa Ana	CA		
Thompson; Shurl A.	El Toro	CA		

US-CL-CURRENT: 424/450; 264/4.1, 264/4.3, 428/402.2, 436/829, 514/944

CLAIMS:

What is claimed is:

1. An improved composition for making liposomes said improved composition being in the form of an aqueous gel comprising:

a. liposome-forming material containing a long chain aliphatic or aromatic-based acid or amine;

b. a hydrating agent of charge opposite to that of the acid or amine, which agent is present in a molar ratio of between 1:20 and 1:0.05 relative to the acid or amine and wherein said hydrating agent is a carboxylate, amino, or guanidino function or a pharmaceutically acceptable salt thereof, or a compound of the formula:

X--(CH.sub.2).sub.n --Y I

wherein

X is H.sub.2 N--C(NH)--NH--, H.sub.2 N--, ZO.sub.3 S--, Z.sub.2 O.sub.3 P--, or

ZO.sub.2 C-- wherein Z is H or an inorganic or organic cation;

Y is --CH(NH.sub.2)--CO.sub.2 H, --NH.sub.2, --NH--C(NH)--NH.sub.2 --COOH,

CH(NH.sub.2)SO.sub.3 Z or ZH(NH.sub.2)PO.sub.3 Z.sub.2 wherein Z is defined above; and n is the integer 1-10; or a pharmaceutically acceptable salt thereof and the acid or amine is an alkyl or alkenyl acid or amine of 10 to 20 carbon atoms; and

c. water in an amount up to 300 moles relative to the solids.

2. The composition of claim 1 wherein said hydrating agent is arginine, homoarginine, or their N-acyl derivatives, gamma-aminobutyric acid, asparagine, lysine, ornithine, glutamic acid, aspartic acid or a compound of the formula:

H.sub.2 NC(NH)--NH--(CH.sub.2)n--CH(NH.sub.2)COOH II

H.sub.2 N--(CH.sub.2)n--CH(NH.sub.2)COOH III

H.sub.2 N--(CH.sub.2).sub.n --NH.sub.2 IV

H.sub.2 NC(NH)--NH--(CH.sub.2).sub.n --NH--CH(NH)--NH.sub.2V

HOOC--(CH.sub.2).sub.n --CH(NH.sub.2)COOH VI

HO.sub.3 S--(CH.sub.2).sub.n --CH(NH.sub.2)COOH VII

H.sub.2 O.sub.3 S--(CH.sub.2).sub.n --CH(NH.sub.2)COOH VIII

HO.sub.3 S--(CH.sub.2).sub.n --CH(NH.sub.2)SO.sub.3 H IX,

or

H.sub.2 O.sub.3 S--(CH.sub.2).sub.n --CH(NH)PO.sub.3 H.sub.2X

wherein n is 2-4, or a pharmaceutically acceptable salt thereof.

3. The composition of claim 2 wherein the hydrating agent is present in an amount between 1:2 to 1:0.5 molar ratio relative to the liposome-forming material.

4. The composition of claim 3 wherein said hydrating agent is arginine, homoarginine, gamma-aminobutyric acid, lysine, or ornithine, or a pharmaceutically acceptable salt thereof.

5. The composition of claim 3 wherein said hydrating agent is glutamic acid or aspartic acid or a pharmaceutically acceptable salt thereof.

6. A composition according to claim 1 which contains a drug.

7. A composition according to claim 6 for oral or intravenous administration of a drug.

8. An improved method for preparing liposomes, which improved method comprises preparing without the use of an organic solvent an aqueous gel comprising:

a) liposome-forming material containing a long chain aliphatic or aromatic-based acid or amine;

b) a hydrating agent of charge opposite to that of the acid or amine, which agent is present in a molar ratio of between 1:20 and 1:0.05 relative to the acid or amine and wherein said hydrating agent is a carboxylate, amino, or guanidino function or a pharmaceutically acceptable salt thereof, or a compound of the formula:

X--(CH.sub.2).sub.n --Y I

wherein

X is H.sub.2 N--C(NH)--NH--, H.sub.2 N--, ZO.sub.3 S--, Z.sub.2 O.sub.3 P--, or

ZO.sub.2 C-- wherein Z is H or an inorganic or organic cation;

Y is --CH(NH.sub.2)--CO.sub.2 H, --NH.sub.2, --NH--C(NH)--NH.sub.2 --COOH, CH (NH.sub.2)SO.sub.3 Z or ZH(NH.sub.2)PO.sub.3 Z.sub.2 wherein Z is defined above; and n is the integer 1-10; or a pharmaceutically acceptable salt thereof and the acid or amine is an alkyl or alkenyl acid or amine of 10 to 20 carbon atoms; and

c. water in an amount up to 300 moles relative to the solids; and dispersing said gel in an aqueous solution in a manner adequate to form liposomes.

9. The method of claim 8 wherein the hydrating agent is present in an amount between 1:2 and 1:0.05 molar ratio relative to the liposome-forming material.

10. The method of claim 9 wherein said hydrating agent is arginine, homoarginine, or their N-acyl derivatives, gamma-aminobutyric acid, asparagine, lysine, ornithine, glutamic acid, aspartic acid or a compound of the formula:

H.sub.2 NC(NH)--NH--(CH.sub.2)n--CH(NH.sub.2)COOH II

H.sub.2 N--(CH.sub.2)n--CH(NH.sub.2)COOH III

H.sub.2 N--(CH.sub.2).sub.n --NH.sub.2 IV

H.sub.2 NC(NH)--NH--(CH.sub.2).sub.n --NH--CH(NH)--NH.sub.2V

HOOC--(CH.sub.2).sub.n --CH(NH.sub.2)COOH VI

HOOC--(CH.sub.2).sub.n --COOH VI

HO.sub.3 S--(CH.sub.2).sub.n --CH(NH.sub.2)COOH VII

H.sub.2 O.sub.3 S--(CH.sub.2).sub.n --CH(NH.sub.2)COOH VIII

HO.sub.3 S--(CH.sub.2).sub.n --CH(NH.sub.2)SO.sub.3 H IX,

or

H.sub.2 O.sub.3 S--(CH.sub.2).sub.n --CH(NH.sub.2)PO.sub.3 H.sub.2X

wherein n is 2-4, or a pharmaceutically acceptable salt thereof.

11. The method of claim 10 where said hydrating agent is glutamic acid or aspartic acid or a pharmaceutically acceptable salt thereof.

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DNA-sandwich liposomes.

18. A composite liposome comprising a first lipid bilayer liposome having an outer surface; a biologically active agent surrounding the outer surface of said first lipid bilayer liposome; and a second lipid bilayer encapsulating the biologically active agent, wherein said composite liposome forms an invaginated vase-like structure.

19. The composite liposome of claim 18, wherein the biologically active agent is DNA.

20. The method of claim 1 or 2, wherein the DNA expression cassette is introduced into said mammal intraperitoneally.

21. The method of claim 1 or 2, wherein the DNA:cationic lipid carrier ratio is about 1:4 .mu.g DNA: nmoles cationic lipid.

22. The method of claim 1 or 2, wherein the DNA:cationic lipid carrier ratio is about 1:3 .mu.g DNA: nmoles cationic lipid and the lipid carrier comprises DDAB and DOPE.

23. The method of claim 2, wherein the DNA:cationic lipid carrier ratio is about 1:6 .mu.g DNA: nmoles cationic lipid and the lipid carrier comprises DOTAP and cholesterol.

24. The method of claim 1 or 2, wherein the DNA:cationic lipid carrier ratio is about 1:1 .mu.g DNA: nmoles cationic lipid and the lipid carrier comprises LPE and CEBA.

25. The method of claim 2, wherein the DNA:cationic lipid carrier ratio is about 1:5 .mu.g DNA: nmoles cationic lipid and the lipid carrier comprises DDAB and cholesterol.

26. The method of claim 1 or 2, wherein the DNA:cationic lipid carrier ratio is about 2:1 .mu.g DNA: nmoles cationic lipid and the lipid carrier comprises LPE and DOPE.

27. The method of claim 1 or 2, wherein a cell into which DNA is introduced is selected from the group consisting of a mammalian T cell, a lung cell, a liver cell, a vascular endothelial cell, and a cell of lymph node.

28. A mammalian transformation complex comparing:

a cationic lipid and a non-cationic lipid forming a liposome ranging in size from 100 nm to 10 microns in diameter; combined with

DNA in a ratio of less than 6:1 micrograms DNA to nanomoles cationic lipid;

wherein said non-cationic lipid comprises cholesterol and said complex does not aggregate in vitro wherein the cationic lipid is L-PE.

29. The mammalian transformation complex of claim 28, wherein the non-cationic lipid is cholesterol.

30. The mammalian transformation complex of claim 28, wherein the ratio of cationic to non cationic lipid is about 1:1.

31. The mammalian transformation complex of claim 28, wherein the cationic lipid is L-PE and the molar ratio of L-PE to cholesterol is about 6:4.

32. The mammalian transformation complex of claim 28, wherein said cationic and non-cationic lipids comprise an MLV.

33. A kit comprising a cationic lipid, a non-cationic lipid comprising cholesterol, a container, and instructions in the use of the cationic lipid

and non-cationic lipid for the transformation of a mammalian cell in vivo, wherein the cationic lipid is L-PE.

34. A method of determining a ratio of DNA to lipid carrier which provides for optimum transformation of a cell in a mammal in vivo, said method comprising the steps of:

systemically introducing a first DNA:lipid carrier complex to a first mammal, wherein said first complex has a first ratio of DNA:lipid carrier;

systemically introducing a second DNA:lipid carrier complex to a second mammal, wherein said second complex has a second ratio of DNA:lipid carrier and said second ratio is different than said first ratio;

selecting a target cell type in the first and second mammal for transformation, thereby providing a selected cell type in said mammals;

measuring the percentage of cells of the selected cell type in the first and second mammal which are transformed with the DNA, thereby providing a percentage of cells of the selected cell type which are transformed in the first mammal, and a percentage of cells of the selected cell type which are transformed in the second mammal; and,

comparing the percentage of cells of the selected type which are transformed in the first mammal to the percentage of cells of the selected type transformed in the second mammal, thereby determining whether the first DNA:lipid complex or the second DNA:lipid carrier complex provides for optimum transformation

whereby at least two tissues in the mammal are transformed with the DNA.

35. The method of claim 1 or 2, wherein said lipid carriers have a mean diameter ranging in size from about 100 nm to 10 .mu.m.

36. The method of claim 1 or 2, wherein the cationic lipid does not comprise DOTMA.

37. The method of claim 1 or 2, wherein said lipid carrier do not comprise LIPOFECTIN.RTM..

38. The method of claim 1 or 2, wherein the DNA expression cassette to lipid carrier ratio is greater than 1:3 micrograms DNA to nanomoles cationic lipid.

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DATE: Thursday, November 04, 2004

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☐	L8	multilamellar adj15 (rna or dna or nucleic)	24
☐	L7	multilamellar adj10 (rna or dna or nucleic)	19
☐	L6	multilamellar adj5 (rna or dna or nucleic)	11
☐	L5	multilamellar adj3 (rna or dna or nucleic)	2
☐	L4	multilamellar adj3 hydrophilic	6
☐	L3	liposome adj3 $antibod$	1025
☐	L2	L1 and 424/450.ccls.	61
☐	L1	stealth adj1 liposome	136

END OF SEARCH HISTORY

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DATE: Thursday, November 04, 2004

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	DB=USPT,EPAB,JPAB,DWPI,TDBD; PLUR=YES; OP=OR		
☐	L1	sandwich adj3 liposome	9

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Search Results - Record(s) 1 through 9 of 9 returned.

☐ 1. Document ID: US 6770291 B2

Using default format because multiple data bases are involved.

L1: Entry 1 of 9 File: USPT Aug 3, 2004

US-PAT-NO: 6770291
DOCUMENT-IDENTIFIER: US 6770291 B2

TITLE: Liposome complexes for increased systemic delivery

DATE-ISSUED: August 3, 2004

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Smyth-Templeton; Nancy	Houston	TX		
Pavlakis; George N.	Rockville	MD		

US-CL-CURRENT: 424/450; 264/4.1, 264/4.3

Full | Title | Citation | Front | Review | Classification | Date | Reference | Claims | KWIC | Draw De

☐ 2. Document ID: US 6517828 B1

L1: Entry 2 of 9 File: USPT Feb 11, 2003

US-PAT-NO: 6517828
DOCUMENT-IDENTIFIER: US 6517828 B1

TITLE: C-CAM as an angiogenesis inhibitor

DATE-ISSUED: February 11, 2003

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Lin; Sue-Hwa	Houston	TX		
Luo; Weiping	Pearland	TX		
Logothetis; Christopher	Houston	TX		

US-CL-CURRENT: 424/93.2; 435/320.1, 514/44, 530/350, 536/23.5

Full | Title | Citation | Front | Review | Classification | Date | Reference | Claims | KWIC | Draw De

☐ 3. Document ID: US 6413544 B1

L1: Entry 3 of 9 File: USPT Jul 2, 2002

US-PAT-NO: 6413544
DOCUMENT-IDENTIFIER: US 6413544 B1

TITLE: Liposome complexes for increased systemic delivery

DATE-ISSUED: July 2, 2002

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Smyth-Templeton; Nancy	Houston	TX		
Pavlakis; George N.	Rockville	MD		

US-CL-CURRENT: 424/450

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | Claims | KWMC | Draw De

☐ 4. Document ID: US 5780319 A

L1: Entry 4 of 9 File: USPT Jul 14, 1998

US-PAT-NO: 5780319
DOCUMENT-IDENTIFIER: US 5780319 A

TITLE: Immunoassays to detect antiphospholipid antibodies

DATE-ISSUED: July 14, 1998

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Maxfield Wilson; Nancy	Bloomington	MN		
Larue; Catherine	Vaucresson			FR

US-CL-CURRENT: 436/518; 422/57, 422/58, 435/287.9, 435/7.1, 435/7.2, 435/7.8, 435/7.92, 435/7.93, 435/7.94, 435/7.95, 436/523, 436/534, 436/71, 436/822, 436/823, 436/829

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | Claims | KWMC | Draw De

☐ 5. Document ID: US 5776487 A

L1: Entry 5 of 9 File: USPT Jul 7, 1998

US-PAT-NO: 5776487
DOCUMENT-IDENTIFIER: US 5776487 A

TITLE: Liposome reagents for immunoassays

DATE-ISSUED: July 7, 1998

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Maxfield Wilson; Nancy	Bloomington	MN		
Larue; Catherine	Vaucresson			FR

US-CL-CURRENT: 424/450; 435/7.1, 435/7.9, 435/7.92, 436/501, 436/518, 436/543, 436/829

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | Claims | KWIC | Draw De

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☐ 6. Document ID: US 5567591 A

L1: Entry 6 of 9 File: USPT Oct 22, 1996

US-PAT-NO: 5567591
DOCUMENT-IDENTIFIER: US 5567591 A
**** See image for Certificate of Correction ****

TITLE: Amplified assay for analyte

DATE-ISSUED: October 22, 1996

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Lovell; Stephen J.	Towson	MD		
Bruton; Jeffrey H.	Randallstown	MD		

US-CL-CURRENT: 435/7.5; 435/7.95, 435/810, 435/969, 436/518, 436/528, 436/541, 436/829

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | Claims | KWIC | Draw De

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☐ 7. Document ID: WO 9807408 A1

L1: Entry 7 of 9 File: EPAB Feb 26, 1998

PUB-NO: WO009807408A1
DOCUMENT-IDENTIFIER: WO 9807408 A1
TITLE: NOVEL LIPOSOME COMPLEXES FOR INCREASED SYSTEMIC DELIVERY

PUBN-DATE: February 26, 1998

INVENTOR-INFORMATION:

NAME	COUNTRY
SMYTH-TEMPLETON, NANCY	US
PAVLAKIS, GEORGE N	US

INT-CL (IPC): A61 K 9/127

EUR-CL (EPC): A61K009/127; A61K047/48, A61K048/00 , C12N015/88

Full | Title | Citation | Front | Review | Classification | Date | Reference | Claims | KWMC | Draw De

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☐ 8. Document ID: US 6770291 B2, US 20020122819 A1

L1: Entry 8 of 9 File: DWPI Aug 3, 2004

DERWENT-ACC-NO: 2003-057479
DERWENT-WEEK: 200451
COPYRIGHT 2004 DERWENT INFORMATION LTD
TITLE: Novel liposome composition, useful as an improved delivery system for biologically-active reagents, e.g. nucleic acids, comprises 1,2-bis(oleoyloxy)-3-(trimethylammonio)-propane and cholesterol or its derivative

INVENTOR: PAVLAKIS, G N; SMYTH-TEMPLETON, N

PRIORITY-DATA: 1996US-024931P (August 30, 1996), 1997WO-US13599 (August 1, 1997), 1999US-0242190 (October 4, 1999), 2001US-0991028 (November 20, 2001), 1997US-0242190 (August 1, 1997)

PATENT-FAMILY:

PUB-NO	PUB-DATE	LANGUAGE	PAGES	MAIN-IPC
US 6770291 B2	August 3, 2004		000	A61K009/127
US 20020122819 A1	September 5, 2002		027	A61K009/127

INT-CL (IPC): A61 K 9/127; A61 K 9/133; A61 K 48/00

Full | Title | Citation | Front | Review | Classification | Date | Reference | Claims | KWMC | Draw De

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☐ 9. Document ID: US 20040197393 A1, WO 9807408 A1, AU 9740502 A, EP 955999 A1, JP 2000516630 W, AU 730771 B, EP 955999 B1, DE 69708919 E, US 20020028219 A1, US 6413544 B1

L1: Entry 9 of 9 File: DWPI Oct 7, 2004

DERWENT-ACC-NO: 1998-168872
DERWENT-WEEK: 200466
COPYRIGHT 2004 DERWENT INFORMATION LTD
TITLE: Sandwich liposome(s) containing DNA between two lipid bi:layers - especially for gene therapy, providing efficient delivery, particularly to the lungs, and high level, sustained protein expression from non-integrated DNA

INVENTOR: PAVLAKIS, G N; SMYTH-TEMPLETON, N

PRIORITY-DATA: 1996US-024386P (August 19, 1996), 2001US-0991028 (November 20, 2001), 2004US-0825803 (April 15, 2004)

PATENT-FAMILY:

PUB-NO	PUB-DATE	LANGUAGE	PAGES	MAIN-IPC
US 20040197393 A1	October 7, 2004		000	A61K009/127

WO 9807408 A1	February 26, 1998	E	060	A61K009/127
AU 9740502 A	March 6, 1998		000	A61K009/127
EP 955999 A1	November 17, 1999	E	000	A61K009/127
JP 2000516630 W	December 12, 2000		060	A61K009/127
AU 730771 B	March 15, 2001		000	A61K009/127
EP 955999 B1	December 5, 2001	E	000	A61K009/127
DE 69708919 E	January 17, 2002		000	A61K009/127
US 20020028219 A1	March 7, 2002		000	A61K009/00
US 6413544 B1	July 2, 2002		000	A61K009/133

INT-CL (IPC): A61 K 9/00; A61 K 9/127; A61 K 9/133; A61 K 47/16; A61 K 47/28; A61 K 48/00; C12 N 15/88

Terms	Documents
sandwich adj3 liposome	9

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L4: Entry 5 of 6 File: USPT Jul 27, 1993

DOCUMENT-IDENTIFIER: US 5230899 A
TITLE: Methods and compositions for making liposomes

Brief Summary Text (38):
Hydrate complex means the complex formed between the hydrating agent and the acid or amine in the liposome-forming material. Mixtures of the hydrating agent, liposome-forming materials and discrete amounts of water form a gel-like mass. When in this gel forms, the hydrating agent and acid or amine in conjunction with all liposome forming materials, arrange into a "hydrate complex" which is a highly ordered liquid crystal. While the liquid crystal structure varies with pH and amount of hydrating agent, the liquid crystal structure remains. NMR spectroscopy confirms that this crystal structure consists of multilamellar lipid bilayers and hydrophilic layers stacked together in alternating fashion. The .sup.31 P-NMR spectrum exhibits an anisotropic peak, confirming the existence of multilamellar bilayers.

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L8: Entry 22 of 24 File: USPT Jul 1, 1997

DOCUMENT-IDENTIFIER: US 5643574 A
TITLE: Protein- or peptide-cochleate vaccines and methods of immunizing using the same

Detailed Description Text (25):
There are several known procedures for making the protein- or peptide-cochleates of the present invention and these are schematized in FIG. 4. One such method is the so-called standard cochleate obtained by use of the calcium-EDTA-chelation technique described by D. Papahadjopoulos et al. {Biochem. Biophys. Acta, Vol. 394, page 483 (1975)} for making plain phospholipid cochleates. In an embodiment of the present invention, a modification of such procedure is employed. In the modified procedure a negatively charged lipid such as phosphatidylserine, phosphatidylinositol, phosphatidic acid or phosphatidylglycerol in the absence or presence of cholesterol (up to 3:1, preferably 9:1 w/w) are utilized to produce a suspension of multilamellar protein lipid vesicles containing and surrounded by antigen (protein, carbohydrate, and/or DNA) which are converted to small unilamellar protein lipid vesicles by sonication under nitrogen. These vesicles are dialyzed at room temperature against buffered divalent cation, e.g., calcium chloride, resulting in the formation of an insoluble precipitate referred to as a cochleate cylinder. After centrifugation, the resulting pellet can be taken up in buffer to yield the cochleate solution utilized in the vaccine of the present invention.

L8: Entry 21 of 24 File: USPT May 26, 1998

DOCUMENT-IDENTIFIER: US 5756264 A
** See image for Certificate of Correction **
TITLE: Expression vector systems and method of use

Detailed Description Text (83):
Administration may also involve lipids. The lipids may form liposomes which are hollow spherical vesicles composed of lipids arranged in unilamellar, bilamellar, or multilamellar fashion and an internal aqueous space for entrapping water soluble compounds, such as DNA, ranging in size from 0.05 to several microns in diameter. Lipids may be useful without forming liposomes. Specific examples include the use of cationic lipids and complexes containing DOPE which interact with DNA and with the membrane of the target cell to facilitate entry of DNA into the cell.

L8: Entry 20 of 24 File: USPT Oct 27, 1998

US-PAT-NO: 5827703
DOCUMENT-IDENTIFIER: US 5827703 A

TITLE: Methods and composition for in vivo gene therapy

DATE-ISSUED: October 27, 1998

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Debs; Robert James	Mill Valley	CA		
Zhu; Ning	El Cerrito	CA		

US-CL-CURRENT: 514/44; 424/417, 424/420, 424/450, 435/325, 435/354, 435/375, 435/458, 435/6, 435/69.1

CLAIMS:

What is claimed is:

1. A method of introducing a DNA expression cassette into cells of a mammal, said method comprising introducing the expression cassette into the manual systemically, wherein:

the DNA expression cassette comprises a promoter, and a DNA sequence encoding a gene product;

the DNA expression cassette is complexed to a lipid carrier comprising cationic lipids and cholesterol having a mean diameter of less than about 10 microns, resulting in a DNA expression cassette-lipid carrier complex;

the DNA expression cassette and lipid carrier does not aggregate in vitro; and

the DNA expression cassette to lipid carrier ratio is less than 6:1 micrograms DNA to nanomoles cationic lipid.

2. A method of introducing a DNA expression cassette into a mammal, said method comprising introducing the expression cassette into the mammal systemically, wherein:

the DNA expression cassette comprises a promoter, and a DNA sequence encoding a gene product:

the DNA molecule is complexed to a lipid carrier comprising cationic and, optionally, non cationic lipids, said carrier having a mean diameter of less than about 10 microns, wherein the molar ratio of cationic lipids to non cationic lipids ranges from 1:19 to 1:0 resulting in a DNA lipid carrier complex;

the DNA expression cassette and lipid carrier does not aggregate in vitro;

the DNA expression cassette to lipid carrier ratio is less than 6:1 micrograms DNA to nanomoles cationic lipid,

whereby the expression cassette is introduced into cells of at least two tissues in the mammal.

3. The method of claim 2, wherein the non-cationic lipid is cholesterol.

4. The method of claim 2, wherein the molar ratio of cationic to non-cationic lipids is about 1:1.

5. The method of claim 1 or 2 wherein the lipid carrier is an MLV.

6. The method of claim 5, wherein the lipid carrier is an MLV with a mean diameter of at least about 500 nm.

7. The method of claim 1 or 2 wherein the lipid carrier comprises DOPE.

8. The method of claim 1 or 2, wherein the promoter is a HCMV promoter.

9. The method of claim 1 or 2, wherein the DNA:lipid carrier does not aggregate in an aqueous solution comprising 5% dextrose.

10. The method of claim 1 or 2, wherein the DNA expression cassette does not comprise an intron.

11. The method of claim 1 or 2, wherein the DNA expression cassette comprises a 5' intron.

12. The method of claim 1 or 2, wherein at least about 50 .mu.g of the DNA expression cassette is introduced into the mammal.

13. The method of claim 1 or 2, wherein the DNA of said expression cassette is purified without PEG prior to complexing to said lipid carrier.

14. The method of claim 1 or 2, wherein the size of the DNA expression vector: lipid carrier complex is at least about 500 nm.

15. The method of claim 1 or 2, wherein the size of the DNA expression cassette: lipid carrier complex is at least about 500 nm.

16. The method of claim 1 or 2 wherein the DNA expression cassette is linear.

17. The method of claim 1 or 2, wherein the DNA expression cassette is plasmid DNA.

18. The method of claim 1 or 2, wherein the DNA expression cassette is introduced into said mammal by an administration technique selected from the group consisting of intraperitoneal and intravenous.

19. The method of claim 1 or 2, wherein the DNA expression cassette is introduced into said mammal intravenously.